



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,961	08/08/2001	Carl M. Hoffmaster	05516.089001	1995

22511 7590 04/28/2008  
OSHA LIANG L.L.P.  
1221 MCKINNEY STREET  
SUITE 2800  
HOUSTON, TX 77010

EXAMINER
----------

DANG, HOANG C

ART UNIT	PAPER NUMBER
----------	--------------

3672

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

04/28/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com  
buta@oshaliang.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* CARL M. HOFFMASTER, DAVID L. TRUAX,  
and TIMOTHY P. BEATON

---

Appeal 2007-3648  
Application 09/924,961  
Technology Center 3600

---

Decided:

---

Before LINDA E. HORNER, DAVID B. WALKER, and BIBHU R.  
MOHANTY, *Administrative Patent Judges*.

MOHANTY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellants seek our review under 35 U.S.C. § 134 of the final rejection of claims 132-150. Claims 1-131 and 151-200 have been canceled.

The Appellants presented oral arguments on April 10, 2008. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We AFFIRM.

## THE INVENTION

The Appellants' claimed invention is directed to an expandable reaming tool comprising at least two reamer pads operatively coupled to a tool body and adapted to be displaced between a retracted position and an expanded position. At least one spiral blade is formed on at least one reamer pad, and a plurality of cutting elements are disposed on the at least one spiral blade. (Specification, [0009]). Claim 132 reproduced below is representative of the subject matter of appeal.

132. An expandable reaming tool, comprising:  
at least two reamer pads operatively coupled to a tool body and adapted to be displaced between a retracted position and an expanded position;  
at least one blade formed on each of the at least two reamer pads;  
a plurality of cutting elements disposed on the blades,  
wherein selected ones of the plurality of cutting elements disposed on one of the at least two reamer pads are positioned to contact a wellbore at a substantially same axial location as other selected ones of the plurality of cutting elements so as to form a redundant cutting arrangement.

## THE REJECTIONS

The Examiner relies upon the following as evidence in support of the rejections:

Mensa-Wilmot '025	US 5,607,025	Mar. 4, 1997
McGarian	US 5,853,054	Dec. 29, 1998
Hansen	US 5,979,576	Nov. 9, 1999

Griffin	US 6,142,250	Nov. 7, 2000
Mensa-Wilmot '394	US 6,164,394	Dec. 26, 2000
Beaton	US 6,269,893	Aug. 7, 2001
Huang	US 6,516,293	Feb. 4, 2003

The following rejections are before us for review:

1. Claims 132-135, 139-140, and 150 are rejected under 35 U.S.C. § 102(b) as anticipated by McGarian.

2. Claims 143, 145-146, and 149 are rejected under 35 U.S.C. § 103(a) as unpatentable over McGarian.

3. Claims 132-135, 139-140, 143, 145-146, 148-150 are rejected under 35 U.S.C. § 103(a) as unpatentable over McGarian and Mensa-Wilmot '025.

4. Claims 136 and 147 are rejected under 35 U.S.C. § 103(a) as unpatentable over McGarian, Mensa-Wilmot '025, and either of Hansen or Griffin.

5. Claims 137-138, and 144 are rejected under 35 U.S.C. § 103(a) as unpatentable over McGarian, Mensa-Wilmot '025, and either of Beaton or Huang.

6. Claims 141 and 142 are rejected under 35 U.S.C. § 103(a) as unpatentable over McGarian, Mensa-Wilmot '025, and Mensa Wilmot '394.

## THE ISSUE

The first issue is whether the Appellants have shown that the Examiner erred in rejecting claim 132 as anticipated by McGarian. This issue turns first on whether McGarian discloses the claimed limitations for reamer pads, blades, and cutting elements. This issue turns second on whether McGarian discloses a “redundant cutting arrangement.”

The second issue is whether the Appellants have shown that the Examiner erred in rejecting claim 132 as obvious over McGarian and Mensa-Wilmot ‘025. This issue turns on whether the teachings of McGarian and Mensa-Wilmot ‘025 are properly combined.

## FINDINGS OF FACT

We find the following enumerated findings of fact are supported at least by a preponderance of the evidence<sup>1</sup>:

1. McGarian discloses a underreamer with lower blades (6A, 6B), a body (52), and bars (54) connected in sequence. (Figs. 1, 5, 6.) The device is disclosed as being used in a well bore. (Col. 1:4-7.)
2. McGarian shows the first lower blade (6A) to follow the second lower blade (6B) in Fig. 1.
3. McGarian discloses that the bars (54) perform cutting (Col. 6:37-42).

---

<sup>1</sup> See *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Patent Office).

4. McGarian discloses that the inserts (57, 58) provide cutting surfaces (Col. 7:3-6). McGarian discloses that the gauge face (D) provides cutting action (Col. 7:12-17).

5. Mensa-Wilmot '025 discloses a drill bit (10) with a redundant cutting arrangement (Fig. 1). Mensa-Wilmot '025 discloses that “[r]edundant cutters increase the durability and life of the bit ...” (Col. 12:13-15). The device is used in drilling an oil well or the like (Col. 1:4-11).

## PRINCIPLES OF LAW

### *Principles of Law Relating to Anticipation*

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

*Principles of Law Relating to Obviousness*

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739.

ANALYSIS

The Appellants argue that the rejection of claim 132 is improper because McGarian does not disclose: (a) two reamer pads, (b) at least one blade formed on each of the reamer pads, and (c) a plurality of cutting elements disposed on the blades (Br. 8-9). The Appellants also argue that McGarian does not disclose a “redundant cutting arrangement” as claim 132 requires (Br. 12-13).

We disagree. McGarian discloses two “blades (6A, 6B)” which correspond to the claimed “reamer pads” and two “wear resistant members (54)” which correspond to the claimed “blades” (FF 1). McGarian also discloses “bars (54)” (FF 3) which corresponds to the claimed “cutting elements.” The disclosed elements of the McGarian reference are arranged in the same manner as the claimed limitations in claim 132 (FF1). Further, since blade 6A follows blade 6B (FF 2), the McGarian reference is considered to have a “redundant cutting arrangement.”

For the above reasons, we sustain the anticipation rejection of claim 132 under 35 U.S.C. § 102 by McGarian. As the Appellants have not separately argued the anticipation rejection of claims 133-135, 139-140, and 150, we sustain the rejection of these claims as well.

The Appellants argue that the rejection of claims 143, 145-146, and 149 made under 35 U.S.C. § 103(a) over McGarian is improper only for the same reasons argued above with respect to claim 132. For the reasons stated above we also sustain the rejection of these claims.

The Appellants argue that the rejection of claim 132 as unpatentable over McGarian in view of Mensa-Wilmot ‘025 is improper. The Appellants argue that the references are not combinable because drill bits and reamers are not interchangeable technologies (Br. 15). As a rebuttal to the prima facie case of obviousness the Appellants have further filed a Declaration<sup>2</sup> under 37 C.F.R. § 1.132 which states that “In general, when designing drill bits or underreamers one of ordinary skill in the art would not look to the

---

<sup>2</sup> The Declaration was made by Graham Mensa-Wilmot, an employee of the corporation seeking this patent at the time the Declaration was executed (Decl. ¶5).



teachings of one of these art areas in order to solve a problem in the other” (Decl. ¶10).

We disagree. McGarian is directed to a reamer (FF 1) and Mensa Wilmot ‘025 is directed to drill bit (FF 5). We consider reamers and drill bits to be interrelated teachings since both tools are used for cutting in well bores (FF 1, 5) and the tools are used in drilling operations. The rationale for using the redundant cutting structure of Mensa-Wilmot ‘025 in the device of McGarian to increase drill bit life (FF 5) would have been obvious at the time the invention was made as reasoned by the Examiner (Ans. 11-12). For these reasons, we consider the Examiner to have established a *prima facie* case obviousness.

We recognize that evidence of secondary considerations, such as that presented by the Appellants must be considered in route to a determination of obviousness/nonobviousness under 35 U.S.C. § 103. Accordingly, we consider anew the issue of obviousness under 35 U.S.C. § 103, carefully evaluating and weighing both the evidence relied upon by the Examiner and the objective evidence of nonobviousness provided by the Appellant. “An applicant may rebut a *prima facie* case of obviousness by providing a “showing of facts supporting the opposite conclusion.” Such a showing dissipates the *prima facie* holding and requires the examiner to “consider all of the evidence anew”. *In re Kumar* 418 F.3d 1361, 1368 (Fed. Cir. 2005).

The Declaration filed under 35 U.S.C. § 132 by Mensa-Wilmot has been fully considered, but is not deemed persuasive to show that the rejection of record is improper after evaluating and weighing all the evidence relied upon by the Examiner and provided by the Appellants. Note that the Declaration of Mensa-Wilmot provides opinion, not factual evidence

as to whether reamers and drill bits in general can be combined. “While objective factual evidence going towards a § 103 determination is preferable to statements of opinion on the issue, the nature of the matter sought to be established, as well as the strength of the opposing evidence, must be taken into consideration in assessing the probative value of expert opinion.” *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978). In this case, the Declaration of Mensa-Wilmot when viewed anew with all the evidence in the record does not provide sufficient evidence to reach a conclusion of nonobviousness. We consider reamers and drill bits to be interrelated teachings since both tools are used for cutting in well bores and the tools both may be used in drilling operations. We find that the use of redundant cutters as disclosed by Mensa-Wilmot ‘025 to increase the durability and life of the bit of McGarian is a predictable result of combining known elements for their established functions.

For the above reasons, we sustain the rejection of claim 132 under McGarian and Mensa-Wilmot ‘025 made under 35 U.S.C. § 103(a). As the Appellants have not presented separate arguments for the patentability of claims 133-135, 139-140, 143, 145-146, and 148-150, we sustain the rejection of these claims as well. Even if one were to disagree that McGarian alone shows redundant cutters, such a combination with Mensa-Wilmot ‘025 for the reasons above would clearly have been obvious.

The Appellants further argue that the following rejections: A) claims 136 and 137 (unpatentable over McGarian, Mensa-Wilmot ‘025, and either of Hansen or Griffin), B) claims 137-138, and 144 (unpatentable over McGarian, Mensa-Wilmot ‘025, and either of Beaton or Huang), and C) claims 141-142 (as unpatentable over McGarian, Mensa-Wilmot ‘025

and Mensa-Wilmot '394) are improper only for the same reasons argued with regard to the McGarian and Mensa-Wilmot '025 rejections addressed above. For the same reasons as above, the combination of the McGarian and Mensa-Wilmot '025 references is considered proper, and the rejection of these claims is also sustained.

### CONCLUSIONS

We conclude that Appellants have failed to show that the Examiner erred in rejecting each of: claims 132-135, 139-140, and 150 under 35 U.S.C. § 102(b) as anticipated by McGarian; claims 143, 145-146, and 149 under 35 U.S.C. § 103(a) as unpatentable over McGarian; claims 132-135, 139-140, 143, 145-146, 148-150 under 35 U.S.C. § 103(a) as unpatentable over McGarian and Mensa-Wilmot '025; claims 136 and 147 under 35 U.S.C. § 103(a) as unpatentable over McGarian, Mensa-Wilmot '025, and either of Hansen or Griffin; claims 137-138, and 144 under 35 U.S.C. § 103(a) as unpatentable over McGarian, Mensa-Wilmot '025, and either of Beaton or Huang; and claims 141 and 142 under 35 U.S.C. § 103(a) as unpatentable over McGarian, Mensa-Wilmot '025, and Mensa Wilmot '394.

### DECISION

The Examiner's rejection of claims 132-150 is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

Appeal 2007-3648  
Application 09/924,961

AFFIRMED

JRG

OSHA LIANG L.L.P.  
1221 MCKINNEY STREET  
SUITE 2800  
HOUSTON, TX 77010